

CLAIMS

1°) Use of a peptide consisting of 5 to 30 amino acid residues, preferably 9 to 15, most preferably about 12 amino acid residues, said peptide comprising a B epitope of a poly- α 2,8 sialic acid attached to NCAM, which is recognized by an anti-poly- α 2,8 sialic acid antibody, for the preparation of a medicament for modulating NCAM functions.

2°) Use according to claim 1, characterized in that said peptide is linear or cyclic.

3°) Use according to claim 1 or claim 2, characterized in that said peptide comprises an amino acid sequence which is selected from the group consisting of the sequences SEQ ID NO: 1 to 12 and 14 to 26, corresponding respectively to DSPLVPFIDFHP, LWQPPLIPGIDF, QIEPWFTPEDFP, TRLAPLVFPLDY, SWLQMPWALVRT, EHLRMIKQITI, WHLEYMWRWPRL, LIEQRLPKHILT, YETSSSRLLAYA, TLASQLSNTSAY, SDQGVNGSWSNP, ,WHNWNLWAPASPT, IKSPLTWLVPPD, SHLDLSTGHRTS, CYPLNPEVYHCG, CWPLSHSVIVCG, CSSVTAWTTGCG, CYMASGVFLCG, CWPLGPSTYICG, CSLIASMETGCG, CSKIASMETGCG, CYIGDPPFNPCG, CWPLGDSTVICG CPLRLAFTFGCG and CTRMSHGYWICG, and the functional derivatives thereof.

4°) Use according to claim 3, characterized in that said peptide consists of a sequence selected from the group consisting of SEQ ID NO: 1 to 12 and SEQ ID NO: 14 to SEQ ID NO: 26.

5°) Use according to claim 4, characterized in that said peptide is a linear peptide consisting of SEQ ID NO: 1.

6°) Use according to claim 4, characterized in that said peptide is a cyclic peptide in which the side chain of the cysteine residue at position 1 of SEQ ID NO: 18 or SEQ ID NO: 22 is attached covalently to the side chain residue of the cysteine at position 11 of SEQ ID NO: 18 or SEQ ID NO: 22 via a disulfide bond.

7°) Use according to claim 1 or claim 2, characterized in that said peptide is a cyclic peptide comprising the sequence SEQ ID NO: 13 or the functional derivatives thereof.

8°) Use according to claim 1 or claim 2, characterized in that said

peptide is a linear peptide comprising the sequence SEQ ID NO: 13 or the functional derivatives thereof.

9°) Use according to any of claims 1 to 8, characterized in that said peptide is included in a complex comprising several identical or different peptides as defined in any of claims 1 to 8, linked by covalent or non-covalent bonds.

10°) Use according to any of claims 1 to 9, characterized in that said medicament is for the prevention and/or the treatment of a pathological condition selected from the group consisting of: neurodegenerative diseases, brain and spine lesions, age-related learning and memory problems.

11°) Use according to any of claims 1 to 7 and 9, characterized in that said medicament is for the prevention and/or the treatment of cancer.

12°) Medicament, characterized in that it comprises a peptide as defined in any of claims 1 to 7 or a peptide complex as defined in claim 9.

13°) Pharmaceutical composition, characterized in that it comprises an effective amount of a peptide as defined in claims 1 to 7, or a peptide complex as defined in claim 9, optionally in a combination with a pharmaceutically acceptable carrier.

14°) Peptide, characterized in that it consists of 5 to 30 amino acids, preferably 9 to 15, most preferably about 12 amino acid residues, said peptide comprising a B epitope of a poly- α 2,8 sialic acid attached to NCAM, which is recognized by an anti-poly- α 2,8 sialic acid antibody, with the exclusion of the linear peptides comprising the sequences selected from the group consisting of: SEQ ID NO: 13, 31 and 32.

15°) Peptide according to claim 14, characterized in that it is linear or cyclic.

16°) Peptide according to claim 14 or claim 15, characterized in that it comprises an amino acid sequence which is selected from the group consisting of the sequences SEQ ID NO: 1 to 12 and 14 to 26, corresponding respectively to DSPLVPFIDFHP, LWQPPLIPGIDF, QIEPWFTPEDFP, TRLAPLVFPLDY, SWLQMPWALVRT, EIHLRMIKQITI, WHLEYMWRWPRL, LIEQRLPKHILT, YETSSSRLLAYA, TLASQLSNTSAY, SDQGVNGSWSNP, WHNWNLWAPASPT,

IKSPLTWLVPPD, SHLDLSTGHRIS, CYPLNPEVYHCG, CWPLSHSVIVCG, CSSVTAWTTGCG, CYMASGVFLCG, CWPLGPSTYICG, CSLIASMETGCG, CSKIASMETGCG, CYIGDPPFNPCG, CWPLGDSTVICG CPLRLAFTFGCG and CTRMSHGYWICG, and the functional derivatives thereof.

5 17°) Peptide according to claim 16, characterized in that it consists of a sequence selected from the group consisting of SEQ ID NO: 1 to SEQ ID NO: 26.

 18°) Peptide according to claim 17, characterized in that it is a linear peptide consisting of SEQ ID NO: 1.

 19°) Peptide according to claim 17, characterized in that it is a cyclic
10 peptide in which the side chain of the cysteine residue at position 1 of SEQ ID NO: 18 or SEQ ID NO: 22 is attached covalently to the side chain residue of the cysteine at position 11 of SEQ ID NO: 18 or SEQ ID NO: 22 via a disulfide bond.

 20°) Peptide complex, characterized in that it comprises several identical or different peptides according to any of claims 14 to 19 linked by covalent
15 or non-covalent bonds.

 21°) Polynucleotide, characterized in that it encodes the peptide according to any of claims 14 to 19 or the peptide complex according to claim 20.

 22°) Recombinant vector, characterized in that it comprises a polynucleotide encoding the peptide according to any of claims 14 to 19 or the peptide
20 complex according to claim 20.

 23°) Host cell, characterized in that it is transformed by a recombinant vector according to claim 22.